REMARKS

Claims 1, 4-6, 9 and 10 are all the claims pending in the application. Claims 1, 5 and 6 are amended. Claims 4, 9 and 10 are cancelled.

The amendments to claims 1 and 6 are based on the description on page 4, lines 13-21 of the original specification.

In amended claim 5, "a spacer layer selected from a group consisting of a Pd layer and a Pt layer" is based on claim 10, which is now canceled.

Claim Rejections - 35 USC § 103

Claims 1, 4-6, 9, 10 are rejected under 35 U.S.C. 103(a) as obvious over Kikitsu et al. US 6,830,824. This rejection is traversed for at least the following reasons.

Claims 4, 9 and 10

With regard to claims 4, 9 and 10, the rejection is moot in view of the cancellation of these claims.

Claims 1, 5 and 6

Claims 1, 5 and 6 have been amended to focus the claims on a specific problem that is solved by the invention, and is not considered or addressed by the prior art, as explained subsequently.

Problems Solved

In defining the problems confronted by the applicants and overcome by the invention, the Applicants teach in paragraph [0006] (i.e. page 3, line 16 through page 4, line 3) of the original specification:

> "By adding an oxide such as SiO_2 to the CoPt-based perpendicular magnetic recording layer, the oxide such as SiO_2 is segregated at the grain

boundaries to reduce the magnetic interaction between the crystal grains of the magnetic recording layer. Further, by the addition of the oxide such as SiO_2, the crystal grain size can be reduced. By increasing the amount of SiO_2 added to the magnetic recording layer, the S/N ratio in high density recording is improved."

Further, as described in paragraph [0007] (i.e. page 4, lines 4-21) of the original specification, Applicants note a barrier in teaching that:

"However, when aiming at a medium adaptable to 400Gbit/inch^2 or more, it is difficult to produce the medium excellent in thermal stability or recording properties only by adding the oxide such as SiO_2. That is, when, for example, the amount of SiO_2 is increased to 6at% or more, degradation occurs in coercive force Hc. Due to such reduction in coercive force Hc, the thermal stability degrades and the DC noise increases. On the other hand, as the amount of SiO_2 increases, the SNR (SN Ratio) becomes better."

Features of the Claimed Invention

The invention uses the structures added by amendment to independent claims 1 and 6 to thereby increase the recording density by improving the S/N ratio in high density recording without causing an increase in DC noise and degradation in thermal stability (paragraph [0008] (i.e. page 4, line 22 through page 5, line 7) and paragraph [0024] (i.e. page 13, lines 5-9 from the bottom) of the instant specification).

Kikitsu et al:

Kikitsu et al neither discloses nor suggests the problem, when aiming at a medium adaptable to 400Gbit/inch^2 or more, that it is difficult to produce a medium excellent in thermal stability or recording properties with as simple solution.

No SiO2 in Ferromagnetic Layer

In considering the problem, in a combination of three layers, that is, "the soft magnetic layer of a material selected from a group consisting of an Fe-based material and a Co-based material", "the ferromagnetic layer", and "the layer comprising a material selected from a group consisting of CoCrPt, CoPt, CoPd, FePt, $CoPt_3$, and $CoPd_3$", Applicants have discovered that there is a simple but elegant solution only by adding an oxide such as SiO_2. Specifically, as now stated in amended claims 1 and 6, Applicants have found the solution by specifying a content of the SiO_2 in the ferromagnetic layer to be 6at% or more.

The Examiner makes reference to a use of Si with oxygen at page 3, lines 1-4 of the Office Action. However, this reference is to the recording layer of Kikitsu et al. It does not concern the ferromagnetic layer. In fact, Kikitsu et al discloses, in col. 8, line 49- col. 9, line 13 various examples of the recording layer.

No Disclosure of Claimed Combination of Layers

Kikitsu et al does not disclose, in col. 8, line 49- col. 9, line 13 and col. 48, lines 38-41, a combination of three layers, that is, "the soft magnetic layer of a material selected from a group consisting of an Fe-based material and a Co-based material", "the ferromagnetic layer", and "the layer comprising a material selected from a group consisting of CoCrPt, CoPt, CoPd, FePt, $CoPt_3$, and $CoPd_3$".

No Disclosure of Claimed Soft Magnetic Layer

Although the Examiner states on page 3, line 2 from the bottom of the Office Action that Kikitsu et al utilizes soft magnetic layers (col. 9, lines 46-62), Kikitsu et al does not disclose "the soft magnetic layer of a material selected from a group consisting of an Fe-based material and a Co-based material".

No Disclosure of Spacer Layer

Kikitsu et al also never disclose "a spacer layer selected from a group consisting of a Pd layer and a Pt layer is provided between said ferromagnetic layer and said layer comprising ~~a~~ the material selected from the group consisting of CoCrPt, CoPt, CoPd, FePt, $CoPt_3$, and $CoPd_3$" in the amended claim 5.

In sum, Applicants respectfully submit that amended claims 1, 5, and 6 are patentable over Kikitsu et al.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

/Alan J. Kasper/

Alan J. Kasper
Registration No. 25,426

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860
WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: December 24, 2008